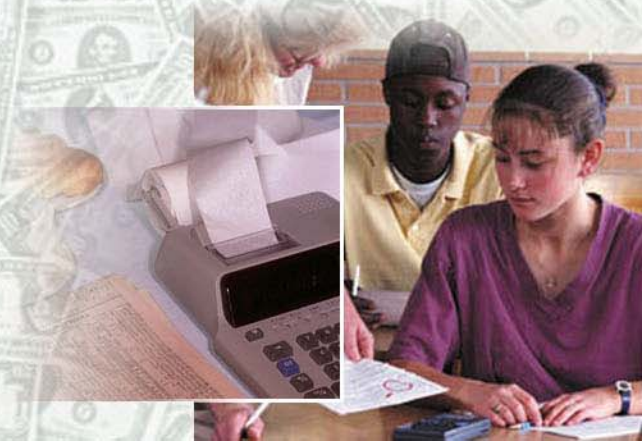




Financing Indoor Air Quality Solutions

How Schools Can Use Existing Funds to Make IAQ Improvements

Presented by:
Julio Rovi
The Cadmus Group, Inc.

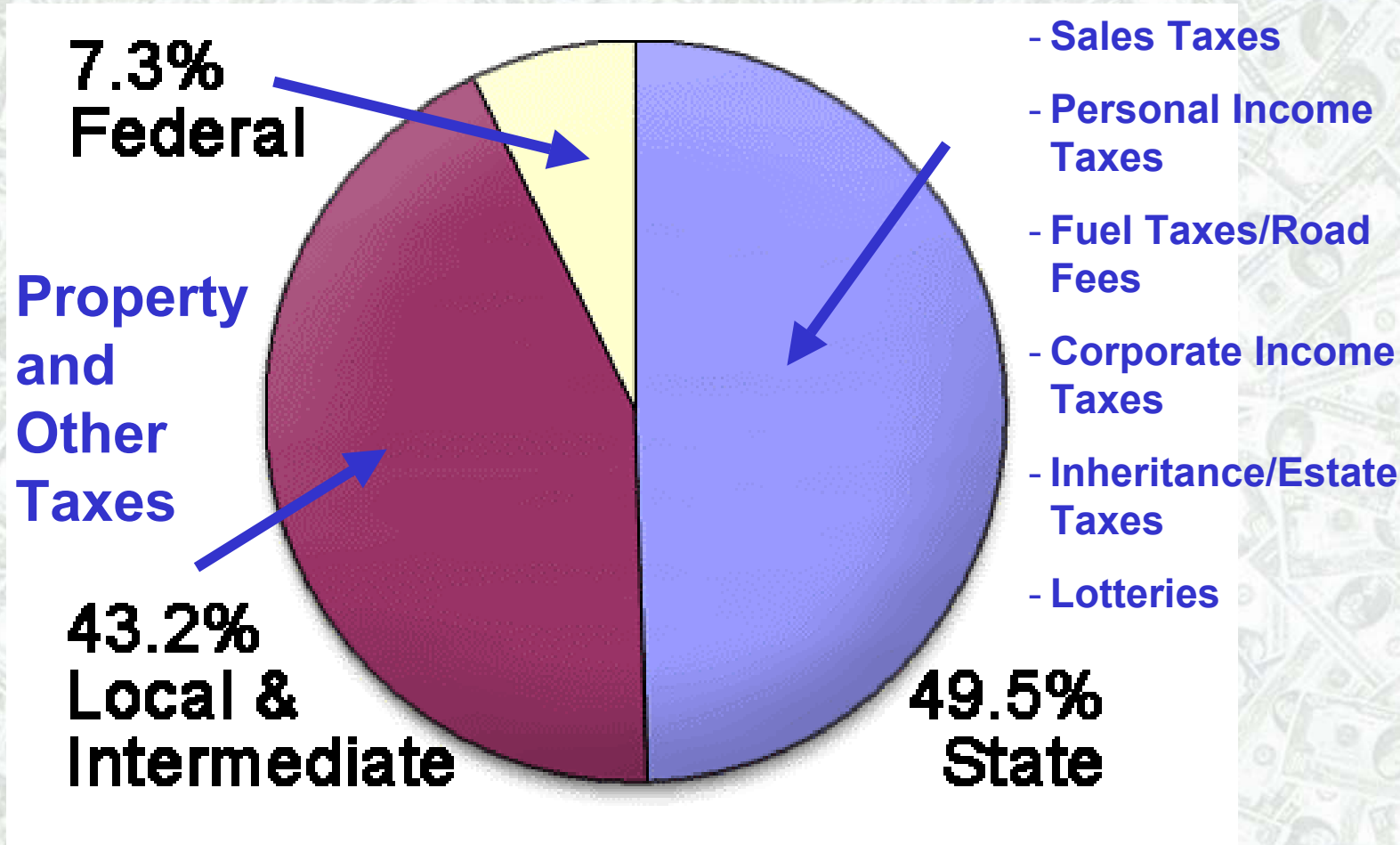


How Does IAQ Fit Into The Budget Picture?

- How does IAQ become a priority for schools?
- How do schools fund IAQ improvements?
- What are alternate options for schools to finance building upgrades?
- What is the relationship between energy efficient buildings and good IAQ?
- How can EPA help improve your school's IAQ?

Where Does School Funding Come From?

Percent of School Revenue by Major Source



SOURCE: U.S. Department of Education, National Center for Education Statistics



Financing with QZABs

Qualified Zone Academy Bonds

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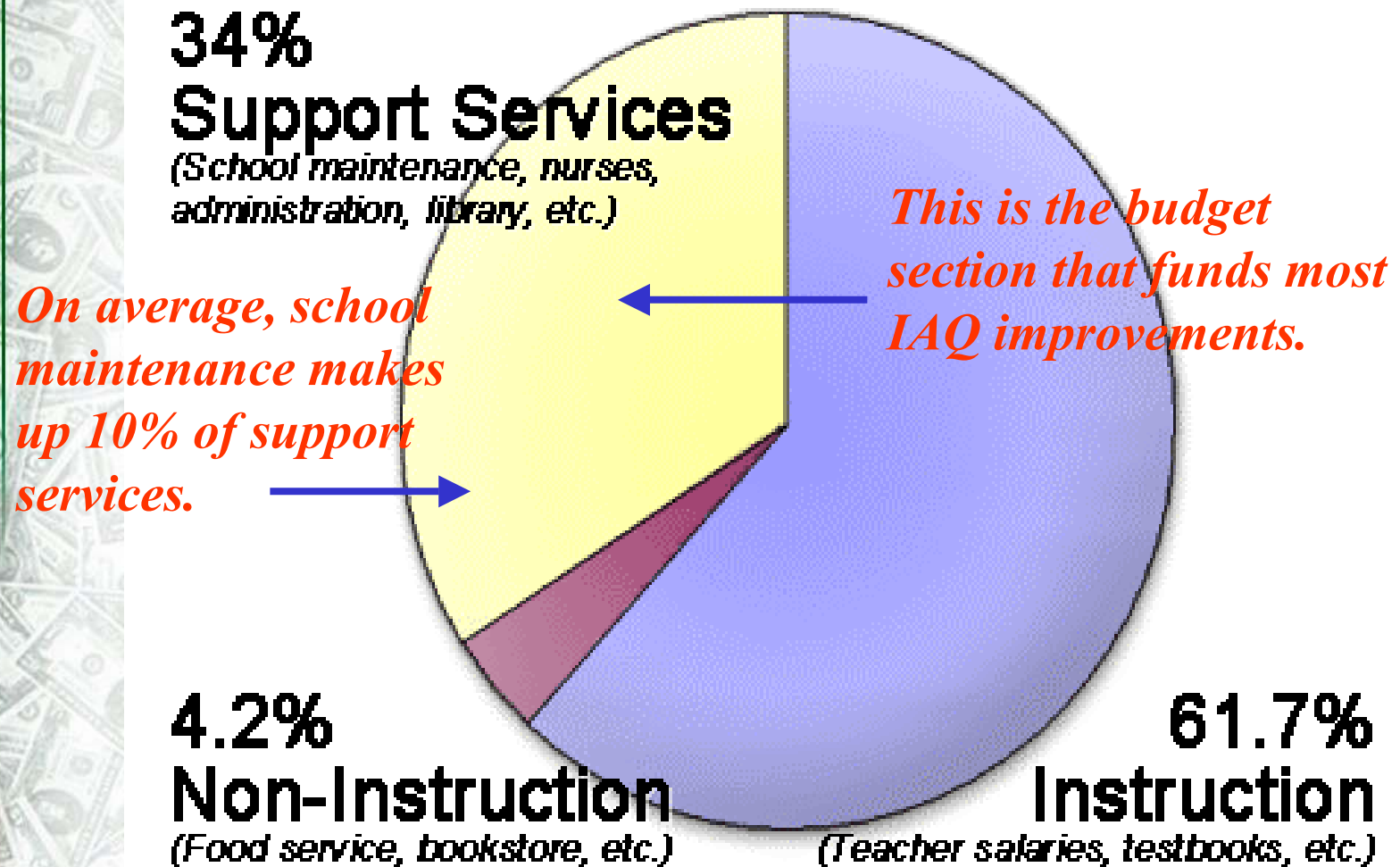
- **U.S. Department of Education**
- **School renovations and repairs**
 - ✓ Infrastructure
 - ✓ Health and Safety
 - ✓ Environmental
 - ✓ Energy Efficiency
- **No new construction**
- **If law allows**
 - ✓ Develop Curriculum
 - ✓ Train Teachers



How are School Funds Spent?

Average Operating Expenditures by School Districts Across the Country

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SOURCE: U.S. Department of Education, National Center for Education Statistics



Average Maintenance and Operating Costs 7

(expressed in dollars per student)

	Nat'l Median	<1,000 students	1,000-3,499 students	>3,500 students
Payroll (\$)				
Custodial	\$247.56	\$258.38	\$237.35	\$272.28
Maintenance	\$58.57	\$88.05	\$54.37	\$53.97
Grounds	\$15.01	\$29.07	\$8.53	\$17.83
Outside Contract Labor	\$5.32	\$6.88	\$3.72	\$12.06



Average Maintenance and Operating Costs 8

(expressed in dollars per student)

	Nat'l Median	<1,000 students	1,000-3,499 students	>3,500 students
Gas	\$60.04	\$80.00	\$54.04	\$44.10
Electricity	\$113.89	\$119.27	\$100.88	\$111.69
Other Utilities	\$31.37	\$42.20	\$28.08	\$27.94
Trash Collection/Disposal	\$8.00	\$10.55	\$7.87	\$6.42



Average Maintenance and Operating Costs 9

(expressed in dollars per student)

	Nat'l Median	<1,000 students	1,000-3,499 students	>3,500 students
Maintenance Equipment & Supplies	\$38.46	\$47.36	\$39.67	\$22.38
Grounds Equipment & Supplies	\$8.65	\$12.42	\$7.73	\$5.95
Other	\$19.71	\$19.71	\$22.46	\$13.66



Average Maintenance and Operating Costs 10

(expressed in dollars per student)

	Nat'l Median	<1,000 students	1,000-3,499 students	>3,500 students
TOTAL Maintenance and Operation (M&O)	\$606.58	\$713.89	\$564.70	\$588.28
TOTAL Net Current Expenditures (NCE)	\$7,795	\$9,937	\$7,156	\$7,167
M&O as % NCE	7.8	7.2	7.9	8.2

How Does IAQ Become a Priority for Schools?

Prioritizing Indoor Air Quality

■ Why Schools Deal with IAQ

- ✓ Officials recognize the health impacts of poor IAQ on learning.
- ✓ Parents apply pressure and demand IAQ be established as a school priority.
- ✓ Emergency situation causes school to act quickly to alleviate problem (e.g., mold contamination).



Barriers to Convincing Schools to Make IAQ a Priority

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- Some school officials do not feel IAQ is a credible problem and therefore do not approve budgets to include improvements.
- Some schools are in a permanent state of crisis management.

Two Types of Costs in IAQ

- **Behavior Modifications**
- **Equipment and Labor**

New Equipment/School Renovations

- **New/Improved Management and Operations Procedures**
 - ✓ IAQ Management Plan
- **New/Improved HVAC**
 - ✓ Air Circulation
- **New/Cleaned Carpets**
 - ✓ Mites
- **New/Repaired Roofing**
 - ✓ Mold and Moisture

The background of the slide is a dense, repeating pattern of US dollar bills, primarily \$100 bills, in various orientations. In the top-left corner, there is a small inset photo of two young children, a girl and a boy, looking up and smiling. In the bottom-left corner, there is another small inset photo of an adult man and a young woman sitting at a desk, looking at a laptop screen.

What is the Relationship Between Energy Efficient Buildings and Good IAQ?

Calculating the Costs of Delaying Upgrades

	Next Year's Budget INSTALLED NEXT YEAR		
Year	Energy Savings	Cost	Difference
This	\$0.0	\$0.0	\$0.0
1	\$100.0	-\$300.0	-\$200.0
2	\$100.0	\$0.0	\$100.0
3	\$100.0	\$0.0	\$100.0
Total	\$300.0	-\$300.0	\$0.0

NOTE: All numbers are annualized without considering partial-year payments or project completion dates.

Calculating the Costs of Delaying Upgrades

	Next Year's Budget INSTALLED NEXT YEAR			48-Month Financing at 6% INSTALLED THIS YEAR		
YEAR	Energy Savings	Cost	Difference	Energy Savings	Cost	Difference
This	\$0.0	\$0.0	\$0.0	\$100.0	-\$84.5	\$15.5
1	\$100.0	-\$300.0	-\$200.0	\$100.0	-\$84.5	\$15.5
2	\$100.0	\$0.0	\$100.0	\$100.0	-\$84.5	\$15.5
3	\$100.0	\$0.0	\$100.0	\$100.0	-\$84.5	\$15.5
Total	\$300.0	-\$300.0	\$0.0	\$400.0	-\$338.0	\$62.0

NOTE: All numbers are annualized without considering partial-year payments or project completion dates.

Calculating the Costs of Delaying Upgrades

	Next Year's Budget INSTALLED NEXT YEAR			48-Month Financing at 6% INSTALLED THIS YEAR		
YEAR	Energy Savings	Cost	Difference	Energy Savings	Cost	Difference
This	\$0.0	\$0.0	\$0.0	\$100.0	-\$84.5	\$15.5
1	\$100.0	-\$300.0	-\$200.0	\$100.0	-\$84.5	\$15.5
2	\$100.0	\$0.0	\$100.0	\$100.0	-\$84.5	\$15.5
3	\$100.0	\$0.0	\$100.0	\$100.0	-\$84.5	\$15.5
Total	\$300.0	-\$300.0	\$0.0	\$400.0	-\$338.5	\$62,000

\$0

\$62,000

NOTE: All numbers are annualized without considering partial-year payments or project completion dates.

How do Schools Fund IAQ Improvements?

Financing IAQ Improvements

■ **Emergency Funds**

- ✓ Established for disaster events (i.e., fire), but can be used to pay for mold remediation or IAQ consultants if approved by the school board.

■ **Maintenance Budget**

- ✓ Operating budgets (i.e., HVAC maintenance)

■ **Capital Money Requests**

- ✓ School deficit funding.

■ **Grants and Rebates**

- ✓ “In-Kind” assistance from outside organizations or service groups.



Financing with QZABs

Qualified Zone Academy Bonds (cont'd)

To qualify, schools must:

- **Have need for financial assistance**
 - ✓ Empowerment Zone or Enterprise Community.
 - ✓ 35 percent students eligible for free or reduced-price lunch program.
- **Receive donations from private enterprises**
 - ✓ 10 percent of the value of money borrowed.
 - ✓ Can be cash, goods, services, internships, or field trips.

***QZABs are issued in accordance with state/local borrowing requirements.**



Categorizing Financial Instruments

■ Capital Expense

- ✓ Bonds
- ✓ Loans
- ✓ Performance Contract

Categorizing Financial Instruments (cont'd)

■ Operating Expense

✓ Lease/Lease Purchase

- The school district pays the cost of the equipment in equal installments over the lease period with the option to purchase the equipment at the end of the period.

✓ Sale-Lease Back

- Enables the school district to acquire a new school building through private financing during renovations of an existing building.

Categorizing Financial Instruments (cont'd)

■ No Expense

✓ Grants

- Tax and interest-free funding allocated by various private, federal, or state entities.
- Can be applied for projects entailing new construction, renovation, site acquisition, debt service, and purchase of school safety equipment or new technology.

Categorizing Financial Instruments (cont'd)

■ **No Expense (cont'd)**

✓ Rebates/Incentives

- Financial bonuses, including tax credits, cash rebates, low-interest loans, and subsidies, awarded by public and private agencies and businesses that help schools to purchase new equipment and systems to improve building performance and energy efficiency.

How Schools Can Take Advantage of Two Pots of Money

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Capital Budget (debt)

- Lengthy & complicated approval process
- Ceiling on capital expenditures
- Difficult to restructure the capital expense budget

Operating Budget (expense)

- Easier approval process
- The money for upgrades is already in your utility bill
- Energy efficiency projects may free up funds for other needs

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What are Alternate Options for Schools to Finance Building Upgrades?



Financing Options

■ **Foundation Funding**

- ✓ Private
- ✓ Community
- ✓ Corporate
- ✓ Operating

■ **Third Party Financing**

- ✓ Lease-Purchase Agreements
- ✓ Performance Contracts
- ✓ Shared Savings Agreement
- ✓ Guaranteed Savings Agreement
- ✓ Own-Operate Agreement

EPA Foundation Resources

■ **EPA Resources in Development:**

- ✓ The Connection Between Energy Efficiency and IAQ
- ✓ How to Secure Funds: Guide to Grant Procuring
- ✓ Comprehensive listing of state and national foundations



Keys to Successful Fundraising Through Foundations

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- **Know Thyself**
- **Know Foundation**
- **Create Win-Win Proposals**
- **Maintain an Active Relationship with Foundation**



Third-Party Financing Mechanisms

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■ Lease Purchase Agreements

- ✓ Usually not considered “debt”
- ✓ Tax-exempt rates available

■ Performance Contracts

- ✓ Understand the differences
- ✓ Determine the best options for you

Common Performance Contracts

■ Shared Savings Agreement

✓ Fixed payment

- One-time verification
- Taxable or tax-exempt

✓ Variable payment

- Requires measuring and monitoring
- More expensive

Common Performance Contracts (cont'd)

■ **Guaranteed Savings Agreement**

- ✓ ESCo or insurance company
- ✓ Can separate financing from technical performance
- ✓ Most commonly used for Public sector (e.g., government)


■ **Own-Operate**

- ✓ ESCo owns facility and sells back “output”

How Can EPA Help Improve Your School's IAQ?



To Summarize...

- Know the local and state laws and procedures that apply to a particular school district.
 - Use teachers and staff to foster behavioral changes when implementing an IAQ management plan (they are already being paid to help students).
 - Understand the various sources available to schools for funding IAQ improvements.
 - Understand and be able to speak the school's financing/budgeting language.
- 



In addition...

- ***Significant cost savings are possible from energy efficiency projects.***
- **Many projects are delayed or prevented due to financial concerns.**
- **Third-party financing can provide funds for these projects.**
- ***Delaying projects is expensive.***

The background of the slide is a dense, repeating pattern of US dollar bills, primarily \$100 bills, in various orientations and shades of green and grey.

Questions?

Data Sources

- U.S. Department of Education, National Center for Education Statistics, Common Core Data, *National Public Education Financial Survey*, School Year 1999-2000.
http://nces.ed.gov/edfin/graphs/graph_index.asp
- American School & University Magazine, *31st Annual M&O Cost Study*, April 2002.
<http://images.asumag.com/files/134/mo%20school.pdf>